

David H. Meyer
Acting Deputy Director
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy

VIA E-Mail

Dear Mr. Meyer:

Below are the responses of the Maryland Public Service Commission (MPSC) to the questions posed by the Department of Energy in response to Section 1234 of the Energy Policy Act of 2005.

Question 1: What are the procedures now used in your region for economic dispatch? Who is performing the dispatch, and over how large an area?

Response: The procedure used to economically dispatch energy resources in the region that includes Maryland is locational marginal pricing (LMP). Under LMP, the price of energy at each bus or location on the grid is determined by calculating the cost of serving an increment of load at each location, given the prices offered by the generators and dispatchable loads and the transmission constraints limiting flows on the grid. The PJM Interconnection performs the dispatch. PJM is a regional transmission organization (RTO). The area over which PJM operates includes all or part of 13 states and the District of Columbia; 2005 summer peak load was 135,000 MW; generation resources amount to about 165,000 MW, about 1,080 units; population served in the PJM RTO footprint is about 51 million.

Question 2: Is the Act's definition of economic dispatch appropriate?¹ Over what geographic scale or area should economic dispatch be practiced? Besides cost and reliability, are there any other factors or considerations that should be considered in economic dispatch, and why?

Response: The definition is appropriate. In general, the larger the geographic scale and the larger the system (as measured by load and generation resources), the greater the benefits (both economic and environmental) of practicing economic dispatch. For a system the size of PJM, economic dispatch is an absolute requirement. It may be appropriate to investigate how selective environmental impacts (to the extent they have not yet been internalized in economic dispatch) might be accounted for, and how accounting for them may affect existing economic dispatch procedures.

¹ EPACT 2005 definition of economic dispatch: "the operation of generation facilities to produce energy at the lowest cost to reliably serve customers, recognizing any operational limits of generation and transmission facilities."

Question 3: How do economic dispatch procedures differ for different classes of generation, including utility-owned versus non-utility generation? Do actual operational practices differ from the formal procedures required under tariff or federal or state rules, or from the economic dispatch definition above? If there is a difference, please indicate what the difference is, how often this occurs, and its impacts upon non-utility generation and upon retail electricity users. If you have specific analyses or studies that document your position, please provide them.

Response: To the best of the knowledge of the MPSC, LMP does not discriminate among different classes of generation. LMP, as developed and implemented by the PJM Interconnection, is part of a FERC-approved wholesale tariff; and to the best of MPSC's knowledge, actual practices exactly or closely hue to the formal procedures. For more specific information please contact PJM Interconnection offices in Norristown, PA.

Question 4: What changes to economic dispatch procedures would lead to more non-utility owned generation dispatch? If you think that changes are needed to current economic dispatch procedures in your area to better enable economic dispatch participation by non-utility generators, please explain the changes you recommend.

Response: Economic dispatch will lead to the right amount of non-utility generation. Economic dispatch, if done properly, has non-discriminatory results in how utility and non-utility generators are operated. Units will be run in merit order based on their economics. It is the absence of economic dispatch that leads to sub-optimal operation of the electrical grid, and can lead to discriminatory practices concerning power plant operations. Subjective criteria versus objective metrics influence the dispatch schedule. Regarding changes to economic dispatch in the PJM Interconnection, MPSC is concerned that market mitigation policies and procedures may discourage new investment by not allowing recovery of sufficient overhead costs. While MPSC does not recommend any changes to PJM economic dispatch procedures at this time, it has concluded that PJM market mitigation policies should be carefully reviewed.

Question 5: If economic dispatch causes greater dispatch and use of non-utility generation, what effects might this have—on the grid, on the mix of energy and capacity available to retail customers, to energy prices and costs, to environmental emissions, or other impacts? How would this affect retail customers in particular states or nationwide? If you have specific analyses to support your position, please provide them to us.

Response: All the effects of economic dispatch will be beneficial, irrespective of who owns the generation. Power plants are dispatched in merit order, resulting in the lowest cost to end-users. Investors in economically efficient power plants will receive higher returns than investors in higher cost plants. This will in turn incent construction of lower cost units in the future. Those generating units that are economically obsolete or non-competitive will find few if any investors, and will gradually diminish in significance with

time. Also, the most economically efficient units are typically the most efficient units operationally, resulting in lower environmental and other physical impacts than would otherwise be the case.

Question 6: Could there be any implication for grid reliability—positive or negative—from greater use of economic dispatch? If so, how should economic dispatch be modified or enhanced to protect reliability?

Response: Economic dispatch as presently practiced in PJM tends to result in more intensive use of transmission and related infrastructure facilities. More energy is being moved over greater distances to take advantage of the large cost differentials that exist among generation facilities operating at the margin. In PJM west these facilities tend to be coal fired, while in PJM east they tend to be oil and natural gas fired. The large and growing differences in fuel prices between coal and natural gas/oil is resulting in transmission and related infrastructure facilities being operated at, or close to their capability for longer periods of time. This tends to result in less flexibility for operators to respond to sudden, unanticipated events, and could result in a less reliable system. Increased transmission capability would help ease operating constraints and increase reliability. The MPSC does not recommend any changes to economic dispatch procedures, but supports efforts to reinforce the electrical grid.

On behalf of the Maryland Public Service Commission, I apologize for the delay in this response.

Sincerely,



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